SEVERE LOCAL HAIL AND WIND STORMS, AUGUST, 1924

[The table herewith contains such data as have been received concerning severe local storms that occurred during the month. A more complete statement will appear in the Annual Report of the Chief of Bureau]

Place	Date	Time	Width of path, yards 1	Loss of life	Value of property destroyed	Character of storm	Remarks	Authority
Williston, N. Dak	1					Thunderstorm and	Considerable structural damage done	Official, U. S. Weather Bu
Abilene, Kans	1	4 p. m	3,520		\$40,000	wind. Hall	Much destruction of gardens, greenhouses, window panes, and auto tops; some stones 5.5 inches in diameter.	Do.
llinwood, Kans	1	4 p. m	1		Į.	do	Fruit, gardens, corn, wheat stacks, and trees	Do.
St. Paul, Minn	2	8 s. m				Wind	damaged. Power lines, trees, signs, and roofs damaged; 1	Dispatch (St. Paul, Minn.)
Hardin and La Rue Coun-	2	10 a. m	 	1	25, 000	Hail, wind, and	person injured. Corn and tobacco badly damaged; some destruc-	Official, U. S. Weather Bu
tles, Ky. Northeastern Wisconsin	3	2 p. m.			110, 000	wind and rain	Corn and topseco hadly damaged; some destruc- tion by flooding. Small grains lodged, corn damaged, numerous washouts, traffic delayed; cherry growers heaviest losers.	Do.
Cherry and Brown Counties,	3	10 p. m	1,760		Í	Hail	heaviest losers. Hay damaged, roofs punctured; prairie chickens	Do.
Nebr. Southern Wisconsin	3-4					Rain, wind, and	and wild ducks killed. Severe crop damage: traffic delayed: many fires	Official, U. S. Weather Bu
			ĺ		1	electrical.	heaviest losers. Hay damaged, roofs punctured; prairie chickens and wild ducks killed. Severe crop damage; traffic delayed; many fires caused by lightning, communication lines crippled, and much damage by flooding. Bulldings damaged, orchards and crops injured.	reau; Green Bay (Wis. Press Gazette.
Southern part of Hardin, and northern part of Marion Counties Ohio	4				20,000	cu.	1	Official, U. S. Weather Bureau.
northern part of Marion Counties, Ohio. Southeast Henry County to Putnam County, Ill.	4	<u></u> 	0.5–5 mi_			Wind, rain, and hail,	Trees and wires blown down, crops injured, and several fires from lightning; much damage by floods.	Do.
Norton, Cheyenne, and Thurman Counties, Kans.	4		: :			Wind	A considerable number of horne outbuildings	Do.
Mitchell, Iowa	4						and windmills blown down; destruction over extensive area. Some crop damage. Store and several barns damaged by lightning.	Do. Do.
cinity. Ludington, Mich	5	j	Ì		;	Ì	Several buildings struck by lightning; communication lines crippled.	Official, U. S. Weather Bu reau; Ludington Dail; News.
Davenport, Iowa, and Mo- line and Rock Island, Ill.	5				!	ĺ	Streets undermined; street cars disabled; com- munication lines and crops considerably dam-	Official, U. S. Weather Bu reau.
Dodge City, Kans. (3.5 mi. se. of). Knowles, Wyo	5						aged. 5 horses killed; no other damage reported	Do.
Knowles, Wyo	6 6	3 p. m	5 mi		07-000	Heavy hail Hail	Corn and gardens damaged	Do. Do. Do.
Nance Counties, Nebr.	(i			,		Do.
Eastern Sheridan and west- ern Cherry Counties, Nebr. Hampshire (near), Wyo	7	9:30 p. m 5 p. m				Heavy hail and	Haystacks, buildings, windmills, and fences wrecked or damaged. Nearly all crops destroyed; many chickens killed.	_
Merrillan, Wis	7	6 p. m	1,760	 .	2,000	wind. Heavy hail	Damage principally to roofs	Do.
Merrillan, WisSand Creek, Wis Trempealeau and Jackson	7	7 p. m 6:30-7 p. m.	330	4	200,000	Tornado	Severe; crops total loss	Do. Do.
Countles, Wis. Chippewa County, Wis	7	7 p. m	1	1	1		destroyed; crops heavily damaged.	Do.
Hartford County, Conn	7	 		1	250, 000	Wind, rain, hail, and electrical.	sive; about 100 persons injured; farm houses and buildings destroyed; great damage to crops. Hundreds of acres of tobacco destroyed, barns burned, wire systems crippled, and other property damage.	Official, U. S. Weather Bu reau; Hartford Couran
Northern Illinois and eastern	7–8		; ;	2	ļ	Wind, rain, and	Extensive property and crop loss	(Conn.). Official, U. S. Weather Bu
Iowa. Dundy County, Nebr	8	8:30 p. m	4 mi	 		hail. Hail. Small tornado	Damage severe in spots	reau. Do. Do.
Western Cherry and eastern Sheridan Counties, Nebr.						Small tornado	some damage to buildings and lences	
Otrum, Wis Between Osseo and Alma Center, Wis.	8	5 p. m 4 p. m	1, 760 1–2 mi	! 	10,000	Heavy haildo	50 per cent crop loss	Do. Do.
Troy (near), Kans Miltonvale (near), Kans	8	5 p. m P. m				Violent wind	Apple and grape crops injured	Do. Do.
Toledo, Ohio Terre Haute, Ind	8-9			 		Wind Thunderstorm	Trees, wires, and a few buildings damaged Trees down, telegraph and telephone service in-	Do. Do.
Torrington, Wyo	y	9-9:20 p.m.	1,760		17, 000	Heavy hail	Beets, potatoes, grains, and meadows injured 12	Do.
Tulsa, Okla	9	P. m		¦	250, 000	Wind, rain, and	to 50 per cent. Lightning struck oil tanks, causing disastrous	Tulsa World (Okla.).
Thurman (near), Colo	1		i	ı	8,000	electrical. Tornado	fire. All farm buildings and crops in path destroyed; 3 autos wrecked; chickens and hogs killed.	Official, U. S. Weather Bu reau. Do,
Mohawk and Schoharie Val- leys, N. Y. Eureka Springs, Ark	10	7–9 p. m	İ	ļ			Heavy losses in property and crops	Do.
Little Island (near), Avoy- elles Parish, La. Evelyn, Ky	11	4 p. m		i .	j.	Thunderstorm	3 persons injured; some houses and trees blown down. Corn and tobacco crops injured	Do. Do.
Greensburg, Ky	11 12			<u></u> .		with hail. do	Severe damage by hall to tobacco and corn crops. Many farm buildings unroofed, some wrecked;	Do. Do
ity. Ford County, Kans	1	4:18 p. m.	1	1	\ \	hall. Violent wind and hall.	3 horses killed; corn stripped.	Do.
Clark and Comanche	12	6:30 p. m	880-1,320		100,000	do	of Wright.	Do.
Counties, Kans Omaha, Nebr Council Bluffs, Iowa	. 12	12:15 p. m.	4 mi			Wind and hail Hail	Considerable destruction of property	Do. Do.
Camden, N. Y.	13	2-3 p. m				Electrical, hail	Roof torn from storage shed, trees uprooted, wires tangled.	Post Standard (Syracuse N. Y.).
Merrick, Hamilton, Clay and Nuckolls Counties, Nebr.	13	5:30-7 p. m.	2–4 mi				Windows and roofs damaged; crops considerably damaged in places; some chickens and pigs killed.	Official, U. S. Weather Bu
Peetz, Colo	13	4-4:30 p.m.	5 mi	ļ	.		Loss of crops valued at \$25 per acre; 30 per cent of land in corn, which is a total loss; windows	Do.

 $^{^1}$ Yards when not otherwise specified; " $\mathrm{mi.}$ " signifies miles.

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Place	Date	Time	Width of path, yards	Loss of life	Value of property destroyed	Character of storm	Remarks	Authority
Duchesne County, Utah	14	3:30-5 p. m.	880	ļ	\$15,000		Damage principally to alfalfa seed crop; path 4 miles long.	Official, U. S. Weather Bu-
Cloverdale, N. Mex Neola, Utah	14 15 15	2 p. m 4:30 p. m 6:30-7:30	1,760 2 mi		2, 500	Heavy hall Hall Heavy hall	Corn stripped; no other damage reported Affalfa seed crop damaged. 1 to 6 inches of hail; sheep, game birds, and rab- bits killed; windows broken; most crops des-	Do. Do. Do.
Ballantine, Mont., eastward	15	p. m.		-		Hail	1 troved.	Do.
across Bighorn River. Sturgis, S, Dak	15	8 p. m				Wind, rain, and hail.	and street lemns broken outce democrad	Daily Journal (Rapid City, S. Dak.).
Rattlesnake Buttes, Colo	16	5:30 p. m				hail. Heavy hail	Large stones in areas injured cattle; a number of fields of beans and some corn destroyed; roofs riddled and windows shattered.	Official, U. S. Weather Bureau.
Porter, N. Mex	16	6 p. m	1–2 mi		15,000	Moderate to heavy hail.		Do.
Northwest of Alzada, Mont., to South Dakota line. Harrisburg, Pa. (10 ml. ne. of).	17 17	6–7 p. m	1	l	i i	Tornado and hail Thunderstorm	Damage limited to a few small buildings Barn and contents destroyed by lightning	Do.
Oriva, Wyo	18 18–19			3		Heavy hail	Much damage to unharvested crops. Thousands of acres inundated; crops beaten, and in many places completely destroyed; com-	Do. Official U. S. Weather Bu- reau; Wisconsin State Jour-
and northern Illinois. Conklin Center and Kirk-wood, N. Y.	20	P. m	550			Tornado	munication demoralized; shipping on Lake Michigan held up; heaviest loss in Iowa.	nal (Madison); Grand Haven Daily Tribune (Mich.). Official, U. S. Weather Burgen
Toledo, Ohio	20		-		20,000	Thunderstorm	Lightning struck generator house on the T. & O. C. Railroad docks, causing fire.	Bureau. Do.
Knowles, Wyo Osseo, Wis Central, Ind	21	4 p. m			100,000	Heavy hail Squall Wind and rain	Corn badly damaged	Do. Do. Evansville Courrier (Ind.).
Poplar, Mont. (9 mi. se. of)	22 22 22		880				Farms considerably damaged	Official, U.S. Weather Bureau.
Ashland County, Ohio Smith County, Kans	22	P. m 2:30 p. m				trical.		Do. Do.
Plymouth County, Iowa	23	l.	1	1		do	l killed	Do.
Pottawattamie County, Iowa. Hamilton County, Iowa Walnut, Iowa Northwestern Missouri	23 23 23 23	9 p. m 10 p. m	4 m1	-	20, 000	do ქo	Considerable damage to corn, truck, and glass	Do. Do. Do.
Northwestern Missouri Galesburg (near), Ill St. Patrick, La. (and vicinity)	ł	P. m		- -	10,000	do do Tornado	Damage was principally to corn, but a few win-	Do. Do.
St. Patrick, La. (and vicinity) Clinton, Ark	24 24	1	ı		1		i aged: 20 persons injured.	Do. Do.
Wright County, Iowa (Troy Township). Border of Harrison and Lewis	24	3 p. m 9 a. m	l	1		Moderate hail Hall		Do.
Border of Harrison and Lewis Counties, W. Va.	24-2 5			2		Thunderstorm	Considerable damage at Lost Creek and Jane- lew: several houses, 1 railway, and 5 highway bridges washed from foundations; crops gen-	Do.
Miami, N. Mex	25 25–26	11 a. m	1.5 mi	2		Moderate bail Tropical hurricane	erally destroyed. Small grain in fields damaged 25 per cent to total Shipping delayed small cottages at beaches damaged; several small boats missing, many lives endangered: much damage on coast and inland in Rhode Island.	Do. Official U. S. Weather Bureau; Virginian Pilot (Norfolk, Va.); Evening Bulletin (Providence); Bos-
Helena (near), Mont	28	6:30 p. m	i .	l	1			ton Herald. Official, U.S. Weather Bureau.
Marion County, Ala	29	5 p. m				Heavy hail	Cotton severely damaged	Do.

55/.5/5 (73) STORMS AND WEATHER WARNINGS

WASHINGTON FORECAST DISTRICT

During the latter half of the month two tropical disturbances reached the Lesser Antilles from the region to the eastward. The first of these was centered between Dominica and St. Lucia the morning of the 17th and the second a short distance northeast of Dominica the evening of the 27th. The tracks of these two disturbances were almost parallel for about 800 miles, both moving almost directly northwestward from the Lesser Antilles, the first at the rate of approximately 270 miles and the other 200 miles a day. The former continued to move in a northwesterly direction until it reached latitude 28° N. and longitude 75° W. It then moved slowly in a westerly direction for 48 hours, after which it turned abruptly and moved north-northeastward with rapidly increasing speed and its course gradually changed toward the northeast. (See Chart II.) Ten and one-half days after this tropical disturbance had appeared over the Lesser Antilles, its center was between Belle Isle and

Fogo, Newfoundland, while eight and one-half days after the second disturbance was first noted its center was in the same location. However, after reaching latitude 25° N. the course of the latter was almost due north for 36 hours, then north-northeast to western Newfoundland, the paths of the two storms gradually converging.

The first tropical disturbance was of only slight intensity in the region of the Lesser Antilles and of moderate intensity when its center passed between Porto Rico and the Virgin Islands during the evening of the 18th. It increased gradually, however, both in intensity and size after passing to the north of Porto Rico and within three days, when its center was in about latitude 27° 30′ N. and longitude 74° 30′ W., the winds near the center had increased to hurricane force. At this time the storm was beginning to recurve to the northward into a shallow trough of low pressure that was moving eastward from the middle and north Atlantic coast, but its path to the northward was blocked by an anticyclone that moved eastward from the Upper Lake region to the North Atlantic States during the 20th-22d. The influence of